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Trends in Papal Communication: A Content Analysis of Encyclicals, from Leo XIII to Pope Francis

Michael Zängle*

Abstract: »Trends in der Kommunikation der Päpste: Eine Inhaltsanalyse der Enzykliken von Leo XIII bis Franziskus«. Within the papal encyclicals (exhortations) ranging from Leo XIII (1878) to Pope Francis (2013), concern for authority in general and for obedience and duty, in particular, is in decline. This long-term trend signals intra-ecclesial secularization at the elite level. A second negative trend supports this finding: textual indicators for Catholic uniqueness such as: Catholic, Doctrine and Pope have steadily lost prominence. Upwardly directed, the textual indicators for God, Jesus, Gospel, Spirituality and Love follow positive long-term trends. The traditional eschatological code, with its keywords sin, death, final judgment, heaven or hell, reaches only low levels of attention. Overall, there is an eschatological loss, where Heaven, due to a slower decline, wins over Hell. Christ the Inexorable Judge is retreating in favor of the loving Jesus and God as Love. The millennia-old process of civilizing God persists. Technically, the quantitative content analysis was carried out mainly with TEXTPACK.

Keywords: Long-term trends, papal encyclicals, intra-ecclesial secularization, content analysis, TEXTPACK.

1. Introduction

Trying to establish long-term trends in religious communication stirs up the spirits of secularization. Are these spirits at work in Catholic sacral texts, and, still more paradoxically, do they infiltrate even encyclicals, papal decrees of highest authoritative dignity (internal secularization)?¹ Any answer to these questions will depend on the meaning we render to the buzzword secularization.

At an ideational level, secularization refers to the retreat of the supernatural, superempirical and miraculous, and, as a concomitant, to the dissolution of anthropomorphisms and sociomorphisms in religious texts. The centuries-old decline of the traditional eschatological code² is at the core of such an ideation-

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¹ "[I]nternal secularization, is the process by which religious organizations undergo internal development towards conformity with the secular world" (Chaves 1994, 757).

² MacCulloch 2009, 1012.

al secularization, which is partially driven by the desire of religious experts to immunize their mysteries against the challenges posed by the scientific, experience-based world view.

At a structural level, secularization denotes the religions' loss of institutionalized power within the encompassing society. In this context, the respective topoi are the victory of the political State over the Church, or, in more abstract terms, social differentiation, with religion as just one subsystem among others, having lost its position of overall control.³

There is no need to take sides. The two aspects of secularization, the ideational and the structural, may well be intertwined, sometimes reinforcing, sometimes impeding each other. My content analysis of papal documents will touch on both. However, my main focus is on internal ideational secularization (intra-ecclesial secularization).

In his famous "Religion as Poetry," the Catholic priest and sociologist Andrew Greeley conceives of religion as an imaginative cultural system,⁴ in part consisting of a collection of pictures and images that help to give meaning to human experiences. Within this framework, Greeley develops the distinction between the "imaginative and preconscious infrastructure" and the "derivative, conscious superstructure" (Greeley 1996, 124).⁵ Usually, he defines the 'preconscious' as being equivalent to the 'prepropositional' or 'metaphorical' level. Grounded in this level of pictures and imaginations, systems of morality, ethics, and theology may develop.

In this infra-superstructure framework, archetypal pictures, images and icons within stories come first, morals and morality come second, ethics and theological doctrine come last.⁶ This is a reversal of a long tradition in Catholic doctrine. This doctrine held or holds that there is no morality without religion as its foundation, and that the Catholic Church by divine providence is suited best to provide this foundation. Thus, in his role as a sociologist, Greeley discards a long held tenet of his church. For the purposes of the present content analysis I rely on Greeley the Sociologist, assuming that morality precedes its sacralization by religious experts. Thus, the first step in my content analysis of papal documents will deal with long-term trends in their morality. In a second step, I will search for possible parallel trends in the sacralization of morality.

³ "In such an interinstitutional system religion is understood primarily as another mundane institutional sphere or organizational sector; it can no longer claim any necessary functional primacy" (Chaves 1994, 751).

⁴ Greeley 1996.

⁵ This terminology, of course, is an ironical allusion to the materialist infrastructure-superstructure paradigm.

⁶ "Stories come first, then theological and catechetical systematization, which enables us to critique the stories, and then finally, in what Paul Ricoeur calls the 'second naivete,' we return to the stories. Religion begins with stories and ends with stories" (Greeley 2004).

Such long-term trends may be modified or even dissolved by catastrophic or revolutionary historical events. Within the time span under investigation, there occurred two World Wars, the Bolshevist Revolution, the Mexican Revolution, and the Council Vatican II, the ‘Catholic Revolution.’⁷ At least if we take the designation ‘Revolution’ at a metaphorical level, many observers and sociologists seem to agree that during Vatican II, something revolutionary happened, both in terms of rapid structural transformation and in terms of thorough doctrinal innovation.⁸ How then are the long-term trends in morality and sacralization modified by Vatican II? In step three I will try to answer this question.

2. Data and Methods

In this paper, I will try to establish some long-term trends in papal communication. Among the different types of papal documents (papal bull, apostolic constitution, encyclical, apostolic exhortation, *motu proprio*, addresses and briefs), it is the encyclicals which are available from the Vatican website for the longest time span. In the official English translations, the encyclicals offered for download start with Leo XIII (1878).⁹

Apparently, encyclicals are authored by the pope. But they are nevertheless the results of processes of – sometimes conflictual – co-operation within the Roman Curia and beyond. It is well known that it was the German Cardinal Faulhaber who drafted *Mit Brennender Sorge*, the only encyclical written in German.¹⁰ This is just the most spectacular example of bottom-up processes influencing papal documents. Thus, drawing psychometric conclusions from papal documents to popes as individuals must be misleading. This precludes any psychometric application of content analysis for the purposes of the present study. Establishing official English translations is, by itself, a challenge in co-operation (Périsset 2012). Reminding us of the Italian saying *traduttore – traditore* (translator – traitor), a former Nuntius to Germany dares to compare the task of translation to “walking the Stations of the Cross” (Périsset 2012, 3).¹¹ This comparison helps to keep in mind that all the results I will present in this paper relate to the English version of the encyclicals only.

Rumor has it that Pope Paul VI was shocked by the hostile reception of his anti-abortionist encyclical *Humanae Vitae*, and so much so, that he never again

⁷ Greeley 2004.

⁸ Wilde 2007, 15.

⁹ Leo XIII 1878.

¹⁰ Périsset 2012.

¹¹ “Nach dem Sprichwort ‘Traduttore – traditore’ (Übersetzer – Verräter) ist es wichtig – besonders in dogmatischen und ethischen Fragen – alle Übersetzungen genau zu prüfen, was für die Mitarbeiter der verschiedenen Sprachsektionen des Staatssekretariats ein echter Kreuzweg ist” (Périsset 2012, 3).

dared to write another.¹² One of the (minor) consequences of his silence is data gaps in the time series. To at least partially fill these gaps, I decided to include Apostolic Exhortations, starting with Paul VI, into the text corpus to be investigated. With exhortations included, the text corpus consists of 231 papal documents. Additional information on the text corpus under investigation can be found in Supplemental Materials 1 (Data).¹³

As to the method of content analysis applied, it may best be characterized as a frequency analysis with words or word combinations as coding units. The content analysis is conducted in two steps. In the first step I make use of the Moral Foundations Theory (MFT) dictionary (Graham, Haidt and Nosek 2009, 1045).¹⁴ In a second step, for the purposes of the present analysis, I developed a dictionary especially designed to detect some trends in the religious content of the encyclicals.

Conceptually, for this part of the content analysis, I am indebted to Michael Ebertz's study on God's Civilization and on the changes in the conceptions of other-worldliness.¹⁵ As a sociologist and Catholic theologian, in his truly interdisciplinary study Ebertz analyzes the conceptual changes of the traditional eschatological code (sin, death, final judgment, hell, heaven). Applying both quantitative and qualitative methods of content analysis to 280 Catholic sermons (1860-1990), he convincingly demonstrates the transformation of this code, with 'heaven' becoming more and more important, and 'hell' losing ground. Ebertz the Theologian seems to deplore these developments he so thoroughly describes as Ebertz the Sociologist. Irrespective of such concerns we may understand the decline of the traditional code as an erosion of the theonomous aspects of morality.¹⁶ As such, the decline of the traditional code is a signal of ideational intra-ecclesial secularization. Do we find such signals in the encyclicals under investigation (1878 to 2013)?

In the trend analyses to follow, given the voluminous text corpus to be analyzed, feasibility requires that I have to rely on percentages of entry occurrences.¹⁷ I call such percentages prominence scores. They signal the visibility of content areas, which means they show where within the span of attention a given subject matter finds its place, be it center-stage, a more peripheral position, or even behind the scenes. Thus, trends in papal communication, as investigated in this paper, are long-term shifts in the focus of attention. To put it negatively, percentages of entry occurrences do not imply any evaluative direction.

¹² "When the encyclical appeared, the negative reaction throughout the Catholic world was such that Pope Paul VI never wrote another, and, it is alleged, seriously considered resigning" (Greeley 2004, 34).

¹³ Available from the author.

¹⁴ Graham et. al. 2009.

¹⁵ Ebertz 2004.

¹⁶ Albert 2012 [2005], 176 and 232; Albert 2008, 81; Glinka 2011, 313.

¹⁷ Weber 1990, 56.

To give an example, the percentages of Sin¹⁸ will rise, if the assertion “Original sin has been overemphasized in the past” is repeatedly made. Thus, relative frequency and valence of textual coding units must be kept apart. In order to avoid confounding them, I chose to call the percentages of occurrences ‘prominence scores.’

I now turn to some technical aspects of my analysis. Graham, Haidt and Nosek constructed their dictionary as a tool to be deployed with the Linguistic Inquiry and Word Count program (LIWC).¹⁹ For the purposes of the present analysis, compared to TEXTPACK,²⁰ the LIWC-program has several limitations.²¹ That is why I decided to transform the Moral Foundations Theory LIWC customs dictionary (Graham, Haidt and Nosek 2009) into a TEXTPACK dictionary. In addition, I expanded this dictionary by a list of keywords to specifically cover the sacralization aspect in the texts under investigation. For more details about the content analysis methods applied I refer to Supplemental Materials 2 (Methods).²²

3. Trends in Morality

Trends in morality may be analyzed within the social psychological framework of Moral Foundations Theory (MRT) as developed mainly by Jonathan Haidt and Craig Joseph.²³ Emphasizing the emotional and intuitive character of moral judgment, the protagonists of Moral Foundation Theory put themselves into opposition to rationalist theories of morality (Lawrence Kohlberg and Jean Piaget). From their social-intuitionist point of view, moral reasoning in the rationalist theories appears to be a post-hoc rationalization of preceding intuitive moral feelings.

There is an obvious parallel between the distinction of intuitive moral judgment versus explicit moral reasoning, and Andrew Greeley’s distinction between infrastructure and superstructure in his structural model of religion. In Greeley’s model, archetypal images, for example his often evoked Madonna with the child and the associated prepropositional moral responses, belong to the infrastructure, whereas their ethical and theological rationalization at propositional level resides in the superstructure.

¹⁸ Words referring to textual indicators start with capital letters.

¹⁹ Pennebaker, Chung et al. 2011; Pennebaker, et al. 2011.

²⁰ Mohler 2002 [1998].

²¹ For a comparison of content analysis software see Skalski 2002, 225–40. Obviously, given the date of publication, this comparison can relate to LIWC2001 only, not to the more recent and considerably enhanced LIWC2007. Krippendorff (2013, 241) seems to ignore the enhancements of LIWC2007 against LIWC2001.

²² Available from the author.

²³ <<http://www.moralfoundations.org>>.

Moral Foundation Theory protagonists originally suggested four ‘intuitive ethics’ (suffering, hierarchy, reciprocity, and purity). These modules, they argued, are possessed by all individuals, transmitted to them by the process of human evolution (and shaped by culture) as responses to adaptive challenges. Further developments have refined and elaborated this approach, which comes together with some assertions or assumptions about which sources of moral judgment are innate and which are culturally learned.²⁴ Happily, in my content analysis I do not depend on any decision on these issues. So I leave it to the experts to find a solution to problems that, I suspect, might never be solved. All I need from Moral Foundation Theory is its intuitionist flavor and its cross-cultural anthropological reach. It is here where Moral Foundation Theory and Greeley’s religious infrastructure come into touch with each other.

Overview 1: Five Moral Foundation Dimensions²⁵

- 1) *Harm/care*: basic concerns for the suffering of others, including virtues of caring and compassion
- 2) *Fairness/reciprocity*: concerns about unfair treatment, inequality, and more abstract notions of justice
- 3) *Ingroup/loyalty*: concerns related to obligations of group membership, such as loyalty, self-sacrifice and vigilance against betrayal
- 4) *Authority/respect*: concerns related to social order and the obligations of hierarchical relationships such as obedience, respect, and proper role fulfillment
- 5) *Purity/sanctity*: concerns about physical and spiritual contagion, including virtues of chastity, wholesomeness and control of desires.

3.1 Connecting to Content Analysis Results based on Moral Foundations Theory

Fortunately, among the many empirical studies carried out in order to develop and corroborate the Moral Foundation Theory, we find a content analysis of 69 Unitarian (liberal, in the sense of leftist) and 34 Southern Baptist (conservative) sermons. This offers the opportunity to compare the results of my own analysis to the findings presented by Graham, Haidt and Nosek (2009), thus providing some rough assessment of external validity.

²⁴ Haidt 2013 [2012], 152.

²⁵ Haidt and Graham 2009, 110-9.

Table 1: Sermon Prominence Scores for the Five Foundations by Political Orientation

Foundation	Liberal Sermons	Conservative Sermons
Care / Harm	0.44	0.26
Fairness / Justice	0.22	0.10
Ingroup / Loyalty	0.52	0.22
Authority / Respect	0.46	0.98
Purity / Sanctity	0.25	0.64
	69 Unitarian sermons 177,629 words	34 Southern Baptist sermons 136,706 words

Modified extraction from Table 1 in Graham, Haidt and Nosek 2009.

The prominence scores in Table 1 (above) are percentages, with the number of a foundation's category occurrences (multiplied by 100) divided by the number of words of the respective sermon corpus. Thus, 0.44% of the total number of liberal corpus words (177,629) fall into the Care/Harm category, compared to 0.26% in the conservative corpus.

Compared to the liberal profile of prominence scores, the conservative profile shows lower values for the first three foundations (care/harm, fairness/justice, and ingroup/loyalty) and higher values for the foundations four and five (authority/respect and purity/sanctity). How do the prominence scores from the encyclicals compare with these reference profiles?

If we consider the score differences across foundations, encyclicals are clearly more similar to the conservative Southern Baptist sermons than to the liberal (that is: leftist) Unitarian sermons. As is true with the reference profile, the conservative foundations Authority and Purity show higher values than the liberal (leftist) foundations Care and Fairness, with Fairness displaying the lowest prominence.

If we consider the values as metrics, encyclicals are higher on the Authority and, even more so, on the Purity/Sanctity foundation than the conservative Southern Baptist sermons. However, the same holds true for the Care foundation. Thus, encyclicals are more conservative than Southern Baptist sermons because they give more prominence to Authority and Sanctity, and they are less conservative than Southern Baptist sermons because they put more prominence on the Care foundation.

Table 2: MFT Profiles from Leo XIII to Benedict XVI

Pontificate	Care	Fair	Ingroup	Authority	Purity
1. Leo XIII	,65	,23	,48	1,12	1,09
2. Pius X	,60	,21	,32	1,05	1,27
3. Benedict XI	,63	,09	,36	1,01	1,26
4. Pius XI	,59	,26	,57	1,09	1,12
5. Pius XII	,64	,18	,51	,91	1,47
6. John XXIII	,69	,40	,69	1,08	,98
7. Paul VI	,43	,20	,65	,83	1,34
8. John Paul II	,36	,20	,71	,85	1,31
9. Benedict XVI	,43	,26	,56	,67	1,22

This is the overall story. When we look more closely into details and compare the pontificates, we will note that John XXIII is an outstanding case. John XXIII is reputed to be a rather liberal (leftist) pope (peace and justice),²⁶ certainly if compared to his forerunners, and, possibly, even compared to his successors. Indeed, the MFT profile of his encyclicals is in support of this reputation (Figure 1, below). His Care/Harm prominence score is the highest among the pontificates under investigation, and his Fairness/Justice score stands out as roughly twice as high as the overall mean.

Table 3: John XXIII's MFT Profile against other Pontificates from Leo XIII to Benedict XVI

	JOHN XXIII No/Yes	N	Mean	Std. Deviation	Std. Error Mean
Harm	0 other pontificate	2010	,4947	,46202	,01031
	1 JOHN XXIII	62	,6940	,57750	,07334
Fair	0 other pontificate	2010	,2113	,27908	,00622
	1 JOHN XXIII	62	,3982	,49160	,06243
Ingroup	0 other pontificate	2010	,5881	,51982	,01159
	1 JOHN XXIII	62	,6944	,55350	,07029
Authority	0 other pontificate	2010	,9224	,55781	,01244
	1 JOHN XXIII	62	1,0795	,82813	,10517
Purity	0 other pontificate	2010	1,2643	,77948	,01739
	1 JOHN XXIII	62	,9798	,75224	,09553

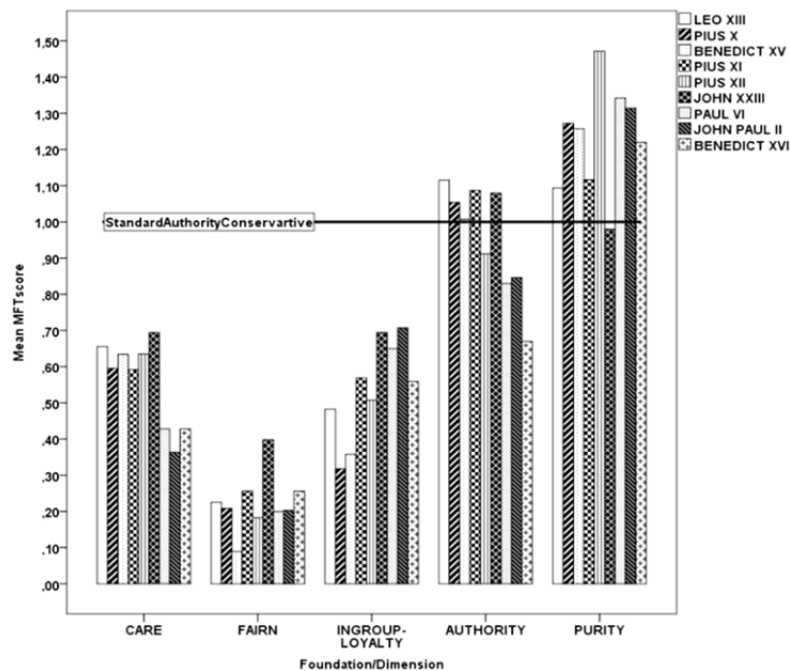
	t-test for Equality of Means				
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Harm	-2,692	63,432	,009	-,19938	,07406
Fair	-2,980	62,219	,004	-,18697	,06274
Ingroup	-1,491	64,363	,141	-,10621	,07124
Authority	-1,483	62,719	,143	-,15709	,10591
Purity	2,930	65,105	,005	,28450	,09710

Note to table 2: The number of cases is 2072. These cases are text units of thousand words.

This specific prominence of the universalist foundation Fairness/Justice and the specifically high score for the leftist foundation Care/Harm turn out to be John's characteristic feature when we compare his scores against the remaining encyclicals since Leo XIII (Table 3, above; Figure 1, below). Admittedly, this is not a rigorous test, but this finding strengthens confidence in the validity of the content analysis measurement of morality.

²⁶ MacCulloch 2009, 967-75.

Figure 1: MFT Profiles from Leo XIII to Benedict XVI



3.2 Morality Trends in Papal Encyclicals

In the above Section 3.1, I tried to offer some evidence concerning the validity of the content analysis procedure applied by relating the results for encyclicals to the findings for reference texts published by advocates of the Moral Foundation Theory (MFT). Now I will turn to the question of whether the encyclicals contain any morality trends as measured by MFT prominence scores. Looking closer at Table 2 (column ‘Authority’) one may suspect such a trend for the Authority foundation.

As Mark Chaves argues,²⁷ when analyzing secularization, the decline of religious authority is of primary importance. He even radicalizes this point to maintain that secularization is tantamount to the decline of religious authority. “Secularization is best understood not as the decline of religion, but as the declining scope of religious authority” (Chaves 1994, 750), where religious authority is defined partially in Weberian terms, recurring on Max Weber’s definitions of hierocratic organizations. According to Weber, such organiza-

²⁷ Chaves 1994.

tions enforce their order through psychic coercion by distributing or denying religious benefits. Such a hierocratic organization will be called a 'church' if its staff claims a monopoly on the legitimate use of hierocratic coercion (Max Weber in Chaves 1994, 754). Chaves then offers a critique of Weber's criterion 'psychic coercion,' a criterion which he judges as not sufficient to distinguish religious authority from political authority. In addition to psychic coercion, he argues, its legitimation through reference to the supernatural is required. "Religious authority, like other forms of authority, has a staff capable of withholding access to something individuals want. When that withholding is legitimated by reference to the supernatural, authority is religious" (Chaves 1994, 756).

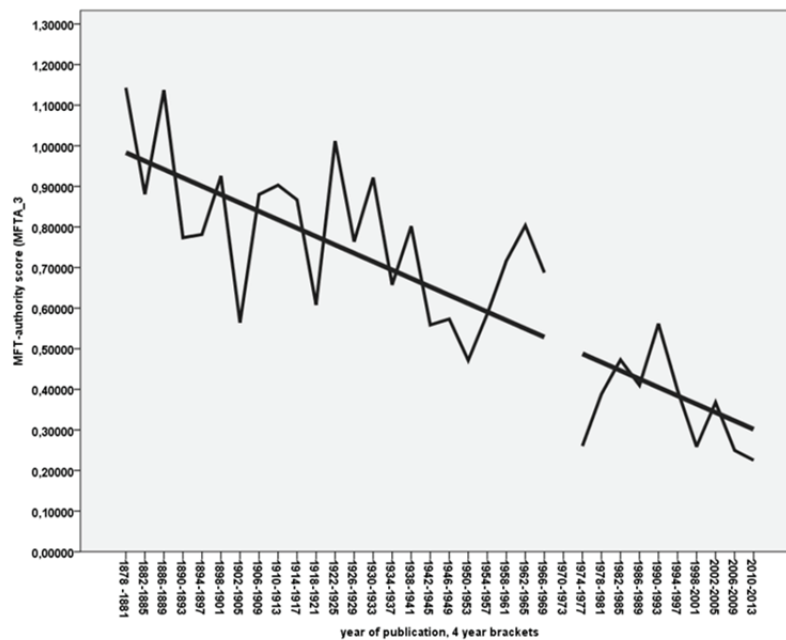
However convincing Chaves' critique may be, I accept his definition of religious authority for the purposes of this paper, leaving it to Weberian experts to decide whether Chaves' addition is at all necessary. A close reading of Weber's chain of definitions might well show that Chaves' critique is nothing more than a possible reading of Weber's own reasoning.

The decline of religious authority occurs at three levels. Firstly, at a societal level, this decline appears as a loss of power exerted by hierocratic organizations within a society. Secondly, at an organizational level, religious authority may be said to be in decline if the power of the staff against their members is threatened by its dwindling legitimacy both within and without the organization. Thirdly, at an individual level, declining authority shows up as disobedience to supernaturally legitimized obligations. Content analysis of encyclicals may offer indicators for the organizational level by measuring internal, intra-ecclesial secularization.

However, a declining scope of religious authority and declining prominence scores for the Authority foundation must be kept apart. Quite obviously, they denote different though presumably interrelated processes. The Church's declining scope in religious authority may be mirrored in her papal communications in several ways. To mention just one alternative: the popes may either step up their protests against a world so hostile to the Church's authority, by this increasing the Authority prominence scores, or she may spend less and less attention to authority matters while emphasizing pastoral and spiritual issues, thus decreasing the Authority prominence scores.

What we find is evidence for the second branch of the alternative. The Authority prominence score is in considerable decline (linear regression; $\beta = -0.83$, $R^2 = .67$. Figure 2, below. Number of cases: 33 measurement points defined by four-year brackets).

Figure 2: MFT Authority Trend from Leo XIII to Benedict XVI



In terms of content analysis, the Authority foundation as graphed in Figure 2 consists of seventy words or word stems. Among these seventy entries, Obedience and Duty are of special, one might even argue of basic interest.

Obedience is at the core of Catholic sacralized morality. To start with Adam and Eve, their fall is first and foremost disobedience, and God's response to this original sin is of upmost severity. In its harshness, it appears to be grossly disproportionate. Anything characterizing the human condition that might have been deplored by anyone at any time goes back to this fall: Not only are women stricken with pain when they bear their children, the very mortality of man is a punishment for disobedience.²⁸ Under the influence of Augustine, the Council of Cartago issued a verdict of damnation against anybody who maintained Adam's morality before his fall (Flasch 2004, 72). Thus, obedience is one of the most deeply sacralized virtues, its sacralization evolving as the story of the Fall is told and retold, as it is metaphorically remodeled or re-interpreted in Paul Lacoer's 'second naïveté' (Greeley 2004, 136).

²⁸ "Während das Alte Testament nirgendwo auf den Sündenfall zurückkommt, um Tod und Elend zu erklären, erklärte Paulus ihn zum Ursprung aller Not" (Flasch 2004, 34).

Firstly then, obedience is one of the most deeply sacralized virtues, and secondly, based on its sacralization, their subjects' obedience is what the Church promised to the political authorities or what she was often expected by them to deliver. Pope Leo XIII did not hesitate to offer his services (Overview 2, Text Extraction 1, below).²⁹

To rephrase his arguments: the civil power receives its sacredness from the Church's authority, and it is by this sacralization of stately power that subjection or obedience is ennobled. This ennoblement of subjection is what the Church can supply. If this supply is accepted by the civil powers, nothing less than social and international peace will ensue, and this-worldly prosperity will be ensured. Quite the contrary is to be expected when the Church's offer is refuted. In case of refutation, prosperity decays and the non-cooperative civil powers are "crushed beneath the weight of every kind of calamity." Unfortunately, Pope Leo XIII is afraid that the Church's help is not asked for as keenly as it used to be in earlier, better times.

It is with such already shaken self-confidence that Leo XIII offered the sacralized obedience of their political subjects to the political authorities in order to protect the Church's power at the societal level. Even if the Church's help is only reluctantly asked for, Leo nevertheless boldly offers his protection through religious doctrines and precepts against socialist upheavals (Overview 2, Text Extraction 2, below).

The god-givenness of the social order, so recklessly attacked by the French materialists, by the French Revolution and by Leo's contemporary adversaries Marx and Engels,³⁰ finds its seemingly naïve and touching expression in his sociomorphism, with the hierarchy among the choirs of the angels prefiguring the hierarchical structure of the Church, and the hierarchical structure of the Church prefiguring the structure of the political state (Overview 2, Text Extraction 3, below).

Leo XIII's successor, Pius X as well offers religiously produced obedience of the subjects in exchange for ecclesial influence within and via the political State [HSR: "Pius X offers...State as well"]. The Redeemer himself, he argues, provided the Church with "the powerful remedies [...] to keep the peoples within the lines of duty" (Overview 2, Text Extraction 4, below).³¹ Pius X is well aware that in days "so hostile to Christ," political states may become less and less dependent on the Church, and the Church's remedies, her application of psychic coercion with reference to the supernatural, are about to lose their effectiveness.

²⁹ Text extractions are content analysis retrievals, not citations. Due to content analysis editing there may be minor modifications of the original text. For more details on this point see Supplemental Materials 2 (Methods). Available from the author.

³⁰ Like QUOD APOSTOLICI MUNERIS, Friedrich Engels' 'Anti-Düring' is published in the year 1878.

³¹ Friedrich Engels, in his life-long occupation with the Book of Revelations, tried to prove the contrary. Instigation to revolution and rebellion is what he finds in early Christian texts, see Boer 2010, 1-23.

Overview 2: Obedience and Duty. Text Extractions

Text Extraction 1: Obedience to the Church and Civil Obedience

Would that this healing authority had never been slighted or set aside! Assuredly, neither would the civil power have lost that venerable and sacred glory, the lustrous gift of religion, which alone renders the state of subjection noble and worthy of man; nor would so many revolutions and wars have been fomented to ravage the world with desolation and bloodshed; nor would kingdoms, once so flourishing, but now fallen from the height of prosperity, lie crushed beneath the weight of every kind of calamity.

LEO XIII. INSCRUTABILI DEI CONSILIO (1878).

Text Extraction 2: The Holy Church and the Evil of Socialism

But it is to be lamented that those to whom has been committed the guardianship of the public weal, deceived by the wiles of wicked men and terrified by their threats, have looked upon the Church with a suspicious and even hostile eye, not perceiving that the attempts of the sects would be vain if the doctrine of the Catholic Church and the authority of the Roman Pontiffs had always survived, with the honor that belongs to them, among princes and peoples. For, “the church of the living God, which is the pillar and ground of truth,” hands down those doctrines and precepts whose special object is the safety and peace of society and the uprooting of the evil growth of socialism.

Papacy LEO XIII. QUOD APOSTOLICI MUNERIS (1878).

Text Extraction 3: Sociomorphism: Social hierarchy in Heaven, in the Church and in Civil Society

Thus, as even in the kingdom of heaven He hath willed that the choirs of angels be distinct and some subject to others, and also in the Church has instituted various orders and a diversity of offices, so that all are not apostles or doctors or Pastors so also has He appointed that there should be various orders in civil society, differing in dignity, rights, and power, whereby the State, like the Church, should be one body, consisting of many members, some nobler than others, but all necessary to each other and solicitous for the common good.

LEO XIII QUOD APOSTOLICI MUNERIS (1878).

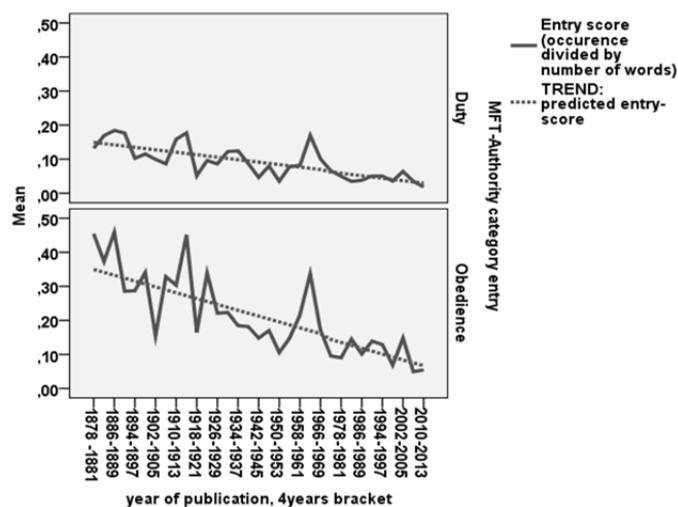
Text Extraction 4: The Soft Power of Religion Ensures Civil Obedience

You are well aware, Venerable Brethren, how truly the plague of depravity triumphs on all sides, and how the civil authority wherever it fails to have recourse to the means of help offered by the supernatural order, finds itself quite unequal to the task of checking it. Nay, authority will never be able to heal other evils as long as it forgets or denies that all power comes from God.

The only check a government can command in this case is that of force; but force cannot be constantly employed, nor is it always available yet the people continue to be undermined as by a secret disease, they become discontented with everything, they proclaim the right to act as they please, they stir up rebellions, they provoke revolutions, often of extreme violence, in the State; they overthrow all rights human and divine. Take away God, and all respect for civil laws, all regard for even the most necessary institutions disappears; justice is scouted; the very liberty that belongs to the law of nature is trodden underfoot; and men go so far as to destroy the very structure of the family, which is the first and firmest foundation of the social structure. The result is that in these days hostile to Christ, it has become more difficult to apply the powerful remedies which the Redeemer has put into the hands of the Church in order to keep the peoples within the lines of duty.
 PIUS X, JUCUNDA SANE (1904).

The text extractions in Overview 2 might suffice to show the importance of Authority, Obedience and Duty. They illustrate the earliest point in the time series of the Church's transformation from a Weberian church into a hierocracy which is stripped of the power to claim the monopoly on legitimately inflicting psychic coercion. As Figure 3 displays, this transformation is paralleled by prominence declines of Obedience and Duty in the encyclicals.

Figure 3: Trends for MFT Authority Entries Duty and Obedience from Leo XIII to Benedict XVI



4. Trends and Patterns of Sacralization

In the preceding Section 3, by applying the MFT dictionary to the papal encyclicals, some evidence was offered showing the decline of concern for Authority, one of the five Foundations of Moral Foundation Theory. For the Foundations Care/Harm, Fairness/Justice, Ingroup/Loyalty, no linear trends could be uncovered.

As to the fifth Foundation Sanctity/Purity, the MFT dictionary contains some entries relating to religious content. However, given its cross-cultural approach, these entries are supposed to be applicable across religions. What is by design a necessity for the cross-cultural MFT dictionary proves to be a limitation for the analysis of papal encyclicals. Thus, for the purposes of this analysis, to investigate sacralization, I developed a more specific dictionary (Supplemental Materials 2: Methods).

In order to at least partially protect against randomly distributed measurement errors, I applied a kind of split-half analysis, splitting the total file into two subsets. To do the splitting, I made use of the TEXTPACK option to automatically generate the lowest ID level (Mohler and Zuell 2002, 34). Using these ID-numbers, the two data subsets were constructed by assigning the even case-IDs to the first half (38,650 sentences) and the odd IDs to the second half (38,785 sentences).

4.1 Negative Trends: Declining Concern for Signals of Catholic Uniqueness

The column headings ODD or EVEN in Table 4 (below) refer to the respective split-half data subsets. The calculation of prominence scores was done separately for both subsets at the aggregation level of 33 measurement points (four-year brackets within the time span under investigation). For a time series to qualify as a trend, when regressing the prominence scores on the time scale the beta-coefficient had to be significant at least at a level of 0.05 in *both* subsets.

For purposes of comparison, Authority prominence scores from the preceding Section 3 were taken into Table 4. To check for validity, Authority is measured in four different but highly interdependent ways (sc22, sc19, sc20, sc21): firstly, including only positive (virtue) keywords and omitting all entries moving against the trend, and removing the invalid word-combination 'in order to' (sc22); secondly, leaving the MFT dictionary as offered for download by the protagonists of Moral Foundation Theory (sc19); thirdly, by including only positive (virtue) keywords and keeping all entries moving against the trend (sc20); fourthly, including only negative (vice) keywords and keeping all entries moving against the trend (sc21). Measurement of Authority proves to be highly consistent across these four variations and the split-half subsets (ODD, EVEN).

In Table 4, reading from the top, the first score stemming from the sacralization dictionary is sc35 ‘state and political power’ (Table 4, line 5). Actually, by its content, this score has no sacralizing connotations. Rather, it serves as a complement of the MFT Authority dimension.

Measured exclusively, that is, measured without overlap with the MFT Authority dictionary, the decline of the score ‘state and political power’ offers additional support for the suggestion that the process of social differentiation is mirrored by prominence shifts within the encyclicals. Declining concern with Authority (lines 1 with 4) is paralleled by a declining concern with the state and political power (line 5) and by a loss of prominence for some keywords touching the uniqueness of the Catholic Church (‘pope as head of church,’ ‘glory and triumph,’ ‘doctrine’; lines 6 with 9). It bears repetition to warn against any misinterpretation of such prominence shifts as findings at the level of statements or assertions. A decline in concern for ‘glory and triumph,’ for example, does not imply any (relative) increase of statements critical of such an attitude. It just demonstrates that matters of glory and triumph are relatively less often addressed, be it the triumph of the Risen Christ, be it the triumph of the Church, or be it the triumph of the Church’s bitterest enemies, a triumph which must be prevented. Note, however, that for whoever is said to triumph over whomever for whatever reasons, the prominence decline of the keyword ‘triumph and glory’ signals a lower inclination to explicitly deal with such matters. It is in the downturn of this inclination which we find in the data. The same holds true for the decline of ‘catholic’ and ‘doctrine.’

Table 4: Negative Trends in Sacralization

	o_corr ODD	o_sig ODD	e_corr EVEN	e_sig EVEN	Prominence Score
1	-,821	,000	-,822	,000	sc22 MFT Authority score, pos-keywords, counter movements excluded
2	-,809	,000	-,817	,000	sc19 MFT_Authority FOUNDATION without corrections
3	-,792	,000	-,792	,000	sc20 AUTH-FOUNDpositive (virtue entries only)
4	-,792	,000	-,792	,000	sc21 AUTH-FOUNDnegative (vice entries only)
5	-,738	,000	-,784	,000	sc35 State and political power
6	-,683	,000	-,739	,000	sc1 catholic
7	-,669	,000	-,667	,000	sc25 pope, head of church
8	-,552	,001	-,531	,001	sc32 glory and triumph
9	-,513	,002	-,517	,002	sc9 doctrine
10	-,421	,015	-,434	,012	sc28heaven

As is well-known and has been referred to above, Max Weber argued that for a hierarchy to be a church, their claim to exert legitimate psychic coercion would not be sufficient. In addition, they must claim the monopoly on legitimate psychic coercion to qualify for a Weberian church. Obviously, the Catholic *extra ecclesiam nulla salus* is a striking instance of such a claim, turning the Catholic hierarchy into a Weberian church as long as this monopoly claim is

upheld, and watering down the ‘church’ into a mere hierocracy as soon as or insofar as the monopolist claim is mollified or even given up.

The prominence declines in Table 4 evoke the impression that some connotations of a claim of monopolist legitimacy, the signals of Catholic uniqueness, are on the retreat. In this, admittedly vague, sense we find a deaccentuation of the Weberian ecclesial attributes within the papal encyclicals.

4.2 Positive Trends: Increasing Concern for Spirituality, Gospel, Jesus and Love

Even a merely cursory glance at Table 5 (below) will reveal that the decline of Catholic uniqueness (Table 4, above) is counteracted by prominence increases for such subject matters as God, Spirituality, Gospel, Jesus and Love. Surprisingly, we even find a sharp prominence gain for the entry ‘Resurrection.’³² This is surprising against the backdrop of a pervasive scientific world view, which means, against the expectation that the encyclicals would more and more refrain from the miraculous. Thus, rising prominence for resurrection as a miraculous event appears to be incompatible with intra-ecclesial ideational secularization. In other words, secularization in terms of losses in Authority is ‘compensated’ by prominence gains in spirituality and other-worldliness.

Table 5: Positive Trends in Sacralization

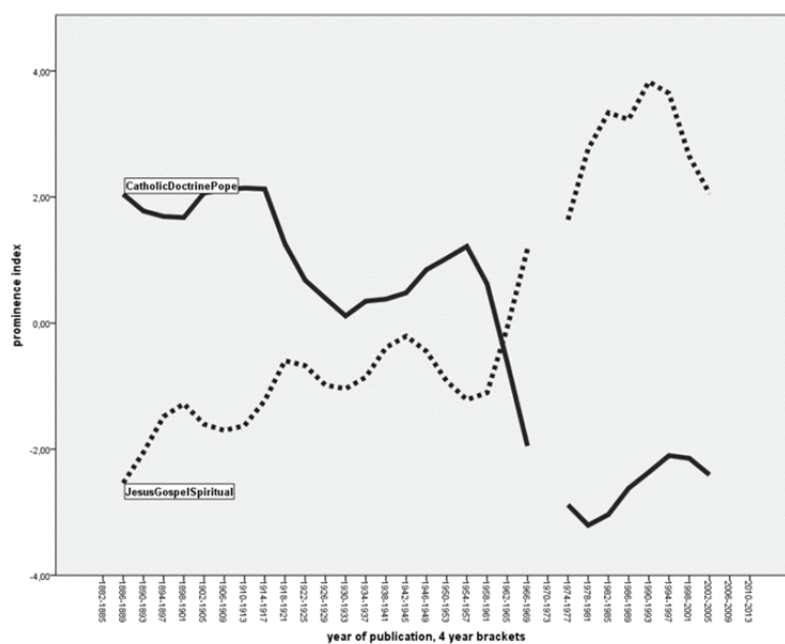
	o_corr ODD	o_sig ODD	e_corr EVEN	e_sig EVEN	Prominence Score
1	,360	,040	,417	,016	sc14 hope
2	,414	,017	,394	,023	sc3 church
3	,435	,011	,353	,044	sc44 Holy Spirit
4	,453	,008	,498	,003	sc37 poverty
5	,454	,008	,358	,041	sc26 clerical activities
6	,479	,005	,390	,025	sc5 Paul
7	,528	,002	,585	,000	sc42 God
8	,561	,001	,483	,004	sco8 spiritual
9	,616	,000	,623	,000	sc4 gospel
10	,624	,000	,593	,000	sc39 Sacrament
11	,634	,000	,484	,004	sc41 death
12	,643	,000	,646	,000	sc43 Jesus
13	,656	,000	,662	,000	sc16 life
14	,709	,000	,734	,000	sc18 love
15	,826	,000	,730	,000	sc49 resurrection

³² Closer scrutiny of this score uncovers a concentration on Christ’s resurrection, while the encyclicals almost totally leave aside the Apostolic Confession’s resurrection of everybody’s body: ‘I believe in the Holy Spirit, the holy Catholic Church, the communion of saints, the forgiveness of sins, the resurrection of the body, and the life everlasting.’ Documentation of this point in: TP_ResurrectionWRITEBACK.sps.

Less Pope, more God (in all his trinitarian persons), less Glory and Triumph, more concern for the Poor, less Doctrine, more Gospel, less Obedience and submission, more Love and compassion, this is the basic story the pattern of prominence scores seems to tell.

This story is summarized in Figure 4 below, which graphs the development of two prominence indices, both of them being sums of three standardized prominence scores: Catholic, Doctrine, and Pope for the first index, and Jesus, Gospel, Spiritual for the second. The selection of these six items is suggested by the results of a principal component analysis (no table).

Figure 4: The Major Prominence Shift: Declining Prominence Index "CatholicDoctrinePope" and Increasing Prominence Index "JesusGospelSpiritual"



To stress the main message, Figure 4 displays the moving averages³³ of the two indices rather than their original values.

The time series for Love correlates strongly with the index-series JesusGospel-Spiritual. This gain in importance of 'love' as a subject matter (Table 5, above) deserves special interpretation. As defined by the content analysis dictionary,

³³ Moving average with a span of four measurement units.

this item includes occurrences of 'love' as noun, verb and adjective (loveable). Thus, 'Love' as a dictionary item is not designed to catch 'Love' as one of the three Christian virtues Faith, Hope and Love. All this item has to do is to signal concern for things or ideas that should or should not be loved, that offer love or deserve our love.

The Catholic God, like any god, resides in the sacral texts of his faithful community. He exists, so to speak, in the temple of context. Starting from the assumption or assertion that 'god' has no extralinguistic referent, some authors even argue that God is nothing but context.³⁴ In any case, God's changing image results from the changing atmosphere in those sacral texts devoted to him. As has often been analyzed, God's image has changed for the better, judged by contemporary standards, in a civilizing process starting several thousand years ago.³⁵

God's civilization process, through which he puts himself under self-constraint and emotional self-control,³⁶ in Heinrich Heine's eyes, is going on during the new covenant as well, ending in a highly ethereal, spiritualized agony³⁷ on January 21, 1793, the very day of Louis XVI's beheading. Heine chooses this date symbolically as the gloomy day when God's dying sets in.

Our heart is full of terrible compassion – it is old Jehovah himself who is readying himself for death. We have gotten to know him so well, from his cradle, in Egypt, where he was raised among the divine calves, crocodiles, holy onions, ibises, and cats – We saw him bid farewell to the playmates of his childhood, along with the obelisks and sphinxes of his homeland, the Nile valley, and become a small God-King in Palestine over a poor shepherd people, living in his own temple palace – We saw later how he came into contact with Assyrian-Babylonian civilization and gave up his all-too-human passions, no longer spewed pure wrath and vengeance, or at least no longer went into rages about every little trifle – We saw him emigrate to Rome, the capital city, where he gave up all natural prejudice and proclaimed the heavenly equality of all peoples. With such splendid phrases, we saw him form a party in opposition to old Jupiter, intrigue long enough to come to power from the Capitol over city and world, *urbem et orbem* – We saw how he became even more ethereal, how he gently whined, how he became a loving father, a general friend of mankind, a benefactor of the world, a philanthropist – none of this could help him. Do you hear the bell ringing? Kneel down – Sacraments are being brought to a dying God (Heine 2007, 76).

Heine's diagnosis of God's agony, however, was thoroughly mistaken. God survived his Heinean and Nietzschean death, and has continued to improve his

³⁴ Kellerwessel 2011, 85.

³⁵ "What the Old Testament reveals is the evolution of Hebrew images of God from a moody and touchy 'Holy Terror' into a virtuous Supreme Being" (Stark 2001).

³⁶ As a correlate to the sociogenetic civilizing process. For the sociogenetic civilizing process see Elias 2000 [1939], 379–81.

³⁷ Heine 2007 [1835].

image ever since, becoming more and more identical with Love, becoming more and more a “loving father” and a more and more beneficial “philanthropist” and “benefactor of the world.” The prominence increases for ‘Love’ in encyclical texts may well be understood against this backdrop. In the section to follow I will show that God (as Christ) is going to almost totally lose his severity as a judge.

4.3 The Obsolescence of the Traditional Eschatological Code

Reporting the results for those prominence scores that show no trend at all (Table 6, below)³⁸ is as important as the description of positive or negative trends. This is especially true when we may expect such trends for theoretical reasons, which then fail to turn up.

The trendless, horizontally or erratically moving scores can be grouped as follows: There are firstly the ‘epistemic’ scores, Knowledge, Truth, Reason, and Science; secondly, there is a group of soteriological items like Salvation, Grace and Sin; thirdly, there are some items touching the core of the traditional eschatological code like Hell, Devil and Final Judgment. The scores Christian (versus Catholic), Church (apparatus) and Virgin Mary cover topics of Catholic uniqueness. Finally, there is the miscellaneous group of items, which share no relevant common meaning.

Judged against the expectations deducible from ideational intra-ecclesial secularization, the epistemic scores are supposed to show negative trends (retreat of natural theology, *lumen naturale*). The same holds true for items relating to Catholic uniqueness (church apparatus, Virgin Mary). These cores should behave like Catholic, Doctrine and Pope, that is, they should show negative trends. Most importantly, the items catching the stern core of the traditional eschatological code (Hell, Devil, and Final Judgement) are expected to display negative trends.

Such negative trends could be persuasively shown by Michael Ebertz (2004) in his content analysis of 280 sermons, dating from 1860 to 1990, with twenty sermons sampled from every tenth year. Calculating the percentage of sermons per year that show at least one explicit occurrence of *Hölle* (hell) (indicator 1), at least one occurrence of *Fegfeuer* (purgatory, indicator 2), at least one occurrence of *Himmel* (heaven, indicator 3), he offers a time series graph comparing the development of these three indicators.

³⁸ To repeat: the respective beta-coefficient has to be significant in both split-half subsets at a level of 0.05.

Table 6: Trendless Prominence Scores

	o_corr ODD	o_sig ODD	e_corr EVEN	e_sig EVEN	Prominence Score
1	-,410	,018	-,277	,119	sc46 reason
2	-,335	,057	-,508	,003	sc Peter
3	-,332	,059	-,380	,029	sc40 pope's self reference
4	-,269	,130	-,101	,576	sc15 knowledge
5	-,243	,173	-,239	,180	sc30 Final Judgment
6	-,239	,181	-,201	,263	sc47 science
7	-,231	,195	-,178	,321	sc10 dogma
8	-,216	,227	-,392	,024	sc29 hell
9	-,185	,303	-,588	,000	sc27 devil
10	-,144	,422	-,271	,128	sc50 Eternity
11	-,085	,637	-,392	,024	sc23 idolatry of money
12	-,071	,694	-,122	,500	sc17 Light
13	,020	,912	-,040	,825	sc36 charity
14	,021	,908	,192	,284	sc12 grace
15	,115	,524	,113	,530	sc38 salvation, redemption
16	,192	,284	-,015	,935	sc13 heart
17	,198	,269	,161	,372	sc31 joy and rejoice
18	,203	,257	,268	,132	sc48 truth
19	,232	,194	,301	,088	sc11 faith
20	,235	,188	,234	,190	sc7 sin
21	,262	,141	,252	,157	sc2 Christian
22	,292	,099	,288	,104	sc33 Virgin Mary
23	,305	,084	,210	,240	sc24 CHURCH, apparatus
24	,387	,026	,330	,061	sc34 social structure
25	,420	,015	,226	,206	sc45 Light and Bright

Roughly, these are his results: ‘Purgatory,’ starting from 1860 shows very low percentages and its movement across the time line seems to be without any trend. ‘Hell’ displays percentages well beyond 50 percent for the years preceding 1910. What then follows, however, is a steep decrease. ‘Heaven,’ the third indicator, is present in nearly all of the 20 sermons per measurement year up to 1940. Then a decline sets in, the indicator dropping to about 14 out of 20 sermons at the measurement points 1970, 1980 and 1990 (Ebertz 2004, 201, Figure 2).³⁹

To summarize Ebertz’s finding, we may talk of a differential decline of ‘heaven’ and ‘hell,’ with a steeper downturn for ‘hell,’ and, as a consequence, with gains of relative importance for ‘heaven.’ Overall, there is an eschatological loss, with ‘hell’ carrying the heavier part of this burden. This finding goes well together with God’s ongoing civilization, who, in his appearance as the Christ of the Final Judgment, becomes more and more reluctant to cruelly punish sinners with the eternal fires of hell.

³⁹ Ebertz’s graph comes without a table, so I had to roughly guess the numeric values.

Quantitative content analysis is only a preparatory step in Ebertz's study. He then goes on with an in-depth qualitative analysis. One of the tools of this qualitative investigation is to describe the development of eight syntactic-semantic word connections (syntaktisch-semantische Wortverbundanalysen, Ebertz 2004, 197). Table 7 offers a translation and semi-formal explication of Ebertz's definitions.

Table 7: Traditional Eschatological Code as Defined by Ebertz (2004)

Concatenation 1	<i>If LIFE then DEATH</i> ⁴⁰
Concatenation 2	<i>If LIFE and DEATH then GOD or If DEATH then GOD</i> ⁴¹
Concatenation 3	<i>If LIFE and DEATH and GOD then SIN</i> ⁴²
Concatenation 4	<i>(If LIFE and SIN then GRACE) or (If DEATH and SIN then not GRACE)</i> ⁴³
Concatenation 5	<i>If DEATH then SEPARATION of BODY and SOUL</i> ⁴⁴
Concatenation 6	<i>If DEATH then JUDGEMENT</i> ⁴⁵
Concatenation 7	<i>If JUDGEMENT then JUSTICE</i> ⁴⁶
Concatenation 8	<i>If JUDGEMENT then (HELL or HEAVEN or PURGATORY)</i> ⁴⁷

To do a similar qualitative in-depth analysis with the encyclicals from 1878 to 2013 is beyond feasibility. What I could do however, was incorporating Ebertz's key words of his eight concatenations into the content analysis dictionary,⁴⁸ calculate the respective prominence scores and study their time series patterns.

The results for Heaven (concatenation 8 in Table 7) come close to Ebertz's finding (Figure 5, below). As he could convincingly show for his German Catholic sermons, Heaven's downturn starts with the end of World War II in the encyclicals.

"Changing attitudes to death and Hell mark a growth of this-worldly concerns in a large part of contemporary Christianity" (MacCulloch 2009, 1014). "Th[is] gradual lowering of temperature of the fires of Hell" dates back at least to the middle of the nineteenth century. It is a worldwide phenomenon and touches in various degrees all Christian denominations and confessions (MacCulloch 2009, 1012). As to this change, Catholicism, however, is said to be a latecomer, and, at the level of encyclicals, the fires of Hell may still do more than 'hardly flicker.'

One way to investigate this point is by looking at the Hell time-series prominence scores. Yet, surprisingly, this series consists mainly of data gaps. Hell, in prominence terms, is of nearly negligible importance at the level of encycli-

⁴⁰ Ebertz, *Zivilisierung*, 216 (derived from section title 7.1).

⁴¹ Ibid., 235 (derived from section title 7.2).

⁴² Ibid., 238 (derived from section title 7.3).

⁴³ Ibid., 263 (derived from section title 7.4).

⁴⁴ Ibid., 306 (derived from section title 7.5).

⁴⁵ Ibid., 309 (derived from section title 7.6).

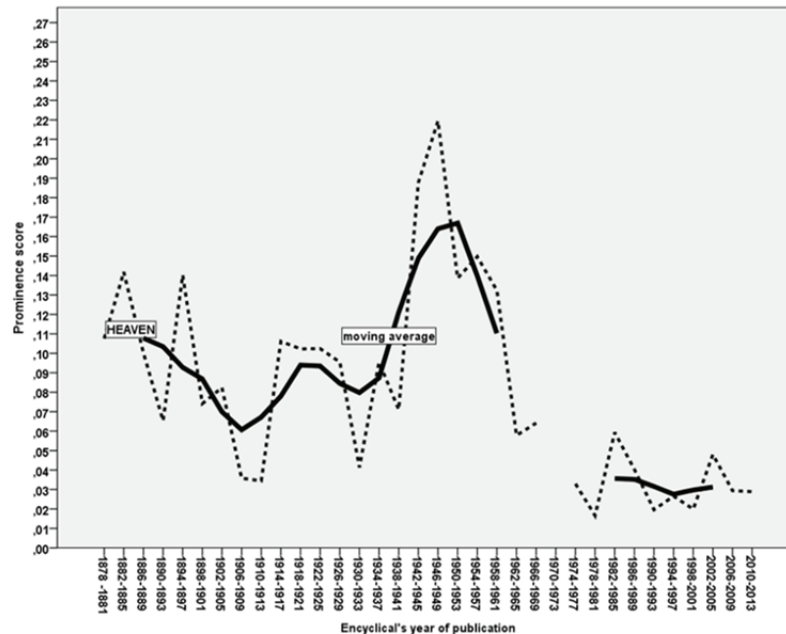
⁴⁶ Ibid., 319 (derived from section title 7.7).

⁴⁷ Ibid., 324 (derived from section title 7.8).

⁴⁸ I did not succeed with the opposition 'body and soul.' 'Body' turned out to be very hard to disambiguate.

cals. Adding all the explicit occurrences of ‘hell’ and ‘infernal’ sums up to no more than 37 counts.

Figure 5: Prominence Scores for HEAVEN from 1878 to 2013



In encyclical texts, starting from PIUS X, Hell is neglected or nearly ‘forgotten.’ Furthermore, fewer than five out of the 37 explicit occurrences deal with Hell as an eschatological status (i.e. status of eternal pain for damned sinners). In the remaining cases, Hell is evoked as the ‘Forces of Evil’ (e.g. atheists, socialists, freemasons), against whom – by God’s providence – the Catholic Church will triumphantly prevail.

Findings are similar if we look for the Master of Hell, God’s great anthropomorphist opponent, the Devil. The encyclicals are certainly not the stage where Satan can visibly play a spectacular role.⁴⁹ With Hell and Devil nearly absent in encyclical texts since Leo XIII, God’s image has lost most of its severity as a Judge (Table 8, below).

⁴⁹ I looked for Satan by the following dictionary entries: 0106 Archfiend, 0107 Beelzebub, 0108 Belial, 0112 devil, 0125 Lucifer, 0128 Master of Hell, 0130 Prince of Darkness, 0132 Satan, 0133 Satan and 0135 Spirit of Evil.

Table 8: Occurrences of Hell, Final Judgment and Devil by Pontificate

Pontificate	Hell	Final Judgment	Devil	Total
1 LEO XIII	12	15	17	44
2 PIUS X	3	1	3	7
3 BENEDICT XV	3	1	3	7
4 PIUS XI	6	10	5	21
5 PIUS XII	7	6	7	20
6 JOHN XXIII	2	1	2	5
7 PAUL VI	0	1	0	1
8 JOHN PAUL II	1	6	12	19
9 BENEDICT XVI	3	15	0	18
10 FRANCIS	0	0	3	3
Total	37	56	52	145

Starting from Ebertz's findings, I expected to find topics like Final Judgment⁵⁰ at prominence levels high enough to describe their gradual decline as an expression of the attenuation of the traditional eschatological code.⁵¹ It came as a surprise to me that encyclicals by Leo XIII and his successors all but neglected these tenets so often repeated by the faithful:

he ascended into heaven,
he is seated at the right hand of the Father,
and he will come to judge the living and the dead

Taking everything into account, at the level of encyclicals, the Heaven-Hell dualism is about to evaporate. Only at second glance do we notice the Hell side, so small are the respective frequencies of occurrence. The decline of the stern part of the traditional eschatological code is almost beyond description, simply because the initial level is not high enough to allow for decline. The Heaven side, far more prominent than its counterpart, for some time resists this downturn. Looking at the period from the year 1878 to the midst of World War II, we even see an upswing. The nose-diving decline thereafter, however, ends at an all-time low.

Given the tiny frequencies for Final Judgment, Hell and Devil I took these three indicators into one group to cover the stern side of the traditional eschatological code. Regressing this indicator ('stern eschatological code') on the time scale offers results compatible with Ebertz's findings (beta -0.520, sig. 0.002, for the total file; beta -0.548, sig. 0.001, for split-half file EVEN; beta -0.319, sig. 0.07, for split-half file ODD).

⁵⁰ The category Final Judgement consists of the following items: Last Judg(e)ment, Final Judg(e)ment, Day of Reckoning, Doomsday, Judge and Avenger, Supreme Judge, Christ the Judge, Divine Judge, Judge of all men, Redeemer and Judge, Judge and Savio(u)r, inexorable Judge, eternal Judge. Documentation in FinalJudgementCorrection_30062014.sps.

⁵¹ Starting from Ebertz 2004, 201.

We may follow MacCulloch (2009, 1014) and take this development to be a trend towards this-worldliness, which might be attributed to an intra-ecclesial ideational secularization, a kind of subliminal intrusion of Enlightenment. There is a second, complementary interpretation. Hell, Devil and Final Judgment remind us of God's cruelty, rage, revengefulness, and disproportionate punishment. Of course, all these negative aspects of God's image were under heavy attack by the French Materialists, but God's civilization started long before. As an expression of God's civilization, the dissolution of the Heaven-Hell dualism is not necessarily a loss in other-worldliness. God loses his terror, but, as Love, remains a supreme eternal being, stripped of some of his less acceptable anthropomorphist attributes. If we follow this line of interpretation then the decline of the heaven-hell dualism is tantamount to a less anthropomorphist conception of God, this decline being partially reinforced but not initiated by the materialist, rationalist or deist critique of Catholic or Christian religion. Altogether, it appears to be an immunization process against secularization *in defense of* the supernatural rather than an exchange of the supernatural for this-worldly concerns.

Thus, the stern traditional eschatological code fades away together with God's beard, Christ's scepter and Satan's fires, but otherworldly spirituality persists or even finds new ways and modes of expression.

5. The Impact of Vaticanum II

Up to this point, I carried out trend analysis by assuming linearity throughout the total time span under investigation (1878-2013). However, an inspection of the time series graphs shows that this assumption is often violated. One way to be less restrictive is to divide the total time span into smaller historical periods (Table 9, below) and to indicate these periods by dummy-variables. The cases for this kind of analysis are text units, with the size of these units being a thousand words.

Regressing prominence scores on these dummies may reveal periodical effects (Table 10, below), and here the beta-coefficients relating to the period immediately following Vaticanum II (Table 9, period number 6, below) deserve special attention. Rightly, many conceive of this council as an intra-ecclesial revolution.⁵² It is therefore important to analyze how the effects of Vaticanum II are embedded in the major trends.

⁵² MacCulloch (2009, 967) is more cautious. His section dedicated to Vaticanum II is headed by the title "half a revolution."

Table 9: Number of Text Units (Unit Size: 1000 Words) by Historical Periods

Historical Periods	Number of Words per Text Unit	Number of Text Units
1. 1878-1913	1000,0	403
2. 1914-1918	998,4	12
3. 1919-1938	1000,0	216
4. 1939-1945	1000,4	67
5. 1946-1966	999,9	239
6. 1967-1990	1000,0	382
7. 1991-2001	1000,0	406
8. 2002-2013	998,3	328
Total	999,7	2053

The historical periods in Table 9 are defined by the following criteria: peacetime or wartime, pre-USSR, ongoing USSR, post-USSR, pre- versus postconciliar, and pre- versus post-9/11. With the exception of ‘pre- and post-conciliar,’ these criteria relate to fundamental geopolitical shifts, which in turn heavily influence the global position of the Church. As a result of World War I (period 3) and the Russian Revolution,⁵³ atheism established itself as a communist political power (period 3). Nazism, predominantly anti-Catholic and staunchly anti-communist at the same time, rose to power between the two world wars (period 3).

Tragically, the Pope as Head of the Holy Sea had to hope both for the defeat of the Soviet Union and for the defeat of the Soviet Union’s nazist enemies (period 4).⁵⁴ Goebbels’s propaganda efforts included the circulation of a manipulated version of Pius XII’s inaugural encyclical saying the Pope was praying for the Germans, while in fact the authentic text said the pope was praying for the Polish people. As a countermeasure, thousands of copies of the encyclical’s original text were dropped over Germany by French airplanes (Chadwick 1986 in Brechenmacher 2010, 190).

In the aftermath of World War II, a culturally protestant, ‘puritan’ state⁵⁵ became the leading power of the world, fighting together with their allies a Cold War against a highly militarized totalitarian atheist regime, urging for religious

⁵³ At the same time the Mexican Revolution attacks the Church: “A critical turning point in church-state relations came in 1917 amidst the decade-long Mexican Revolution (1910-1920). With Catholic bishops taking the side of the perceived counterrevolutionaries early in the struggle, the more radical authors of the 1917 Mexican Constitution sought to punish the Church by severely curtailing its legal and social status in the country. The Constitution made the Catholic Church a legal nonentity, thereby prohibiting it from owning property and forbidding the clergy from any form of participation in political life, including holding office and voting. Church buildings were to be owned by the state. Moreover, the clergy were also restricted from wearing clerical garb or celebrating Mass in public” (Gill 2005, 1-34).

⁵⁴ “Und so ausgeprägt (und begründet) der Anti-Kommunismus beim Heiligen Stuhl war, so wenig konnte diese Haltung eine Kooperation mit dem Nationalsozialismus rechtfertigen” (Brechenmacher 2009, 186).

⁵⁵ Greeley 2004, 144.

liberty all over the world – and first of all within the Eastern Block.⁵⁶ Obviously, *extra ecclesiam nulla salus* is not easily maintained under such conditions. The Church had to open up herself for Religious Liberty.⁵⁷ As a consequence, human rights, formerly fiercely fought against, were turned into a weapon of the Church (Conference on Security and Co-operation in Europe).⁵⁸ In post-9/11 times, the Church had to decide how she should advocate the case of the Judeo-Christian occidental heritage against both moderate Islamic traditions and the militant assaults by Islamic fundamentalism.⁵⁹ Pope Benedict XVI, in his controversial lecture at the University of Regensburg, among other topics, addressed the relationship of force and religion. With his deep erudition as a theologian, he took great efforts to demonstrate the superiority of the Catholic tradition in dealing with religious violence over the Islamic tradition of the Holy War (period 8). These few hints may render some plausibility to the suggested definition of historical periods. Given this periodization, are there any indications that the postconciliar period is special?

The Council Vatican II has brought about several paradigm shifts. The most famous among them is known as *aggiornamento*, which had to be instituted “on two major levels; institutionally (as a church structure) and individually (as Christians)” (Bellitto 2002, 134). Institutionally, the Church was criticized to be an over-centralized, triumphalist, aloof, top-down apparatus out of touch with the concerns of the modern world. Instead, she was to become a People of God, binding together all levels of clergy and laity as a community engaged in evangelization. At the level of individuality, *Gaudium et spes* “focused on each person’s inner spiritual renewal” (Bellitto 2002, 136). A second document relating to the Church’s character, *Lumen gentium*, “described Jesus as the light of the nations and wanted the church to spread that light throughout the world” (Bellitto 2002, 136).

Do such paradigm shifts, put down in conciliar documents of high theological and philosophical sophistication, show up in crudely measured prominence scores? This, indeed, may be the case. When regressing the index ‘JesusGospelSpiritual’ on historical periods, the pattern of beta-coefficients clearly suggests a conciliar effect (Table 10 Regression of index 1 ‘JesusGospelSpiritual’ on historical periods).

⁵⁶ “A Cold War threatened the world with nuclear annihilation; in an astonishing coincidence, Vatican II opened on 11 October 1962, just a few days before U.S. president John F. Kennedy received the reports confirming Soviet missile sites ninety miles from America that led to the tense, two-week Cuban Missile Crisis” (Bellitto 2002, 129).

⁵⁷ Gill 2005, 1–34.

⁵⁸ Schalk 2010, 305–11.

⁵⁹ Benedict XVI 2011 (accessed July 4, 2014).

Benedict XVI 2006. (accessed July 5, 2014).

Table 10: Regression of Index 1 'JesusGospelSpiritual' on Historical Periods

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1,061	,092		-11,517	,000
y2 1914-1918	,601	,569	,022	1,055	,291
y3 1919-1938	,265	,157	,040	1,687	,092
y4 1939-1945	,939	,247	,082	3,799	,000
y5 1946-1966	,368	,152	,058	2,421	,016
y6 1967-1990	2,074	,133	,398	15,630	,000
y7 1991-2001	1,680	,131	,330	12,859	,000
y8 2002-2013	1,510	,138	,273	10,932	,000

a. Dependent Variable: index1 JesusGospelSpiritual, sum of z-scores, R = 0,397.

Admittedly, talking about a “conciliar effect” is overstated in terms of causal analysis. First, this overstatement implies the *post-hoc ergo propter hoc* fallacy. Second, the results are dependent on the segmentation of the timeline into historical periods. Different periodization may lead to different results. Third, the segmentation of the total text corpus into 1000-word units is arbitrary.

This said, evidently, the period immediately following Vaticanum II (period y6) shows a sudden prominence increase for the topics associated with the index ‘JesusGospelSpiritual.’ And such an increase is what we expect if the paradigm shifts brought about by *Gaudium et spes* and *Lumen gentium* had some impact on the postconciliar encyclicals’ focus of attention.

Table 11: Positive Postconciliar Effects. Regression of Textual Indicators on Time Periods (Beta Coefficients)

Score	1914- 1918 (2)	1919- 1938 (3)	1939- 1945 (4)	1946- 1966 (5)	1967- 1990 (6)	1991- 2001 (7)	2002- 2013 (8)
sc43 Jesus	,02	,04	,09	,06	,32	,23	,20
sc8 spiritual	,00	,03	,06	,00	,27	,16	,08
sc44 Holy Spirit	,00	-,01	,00	-,02	,24	,08	,08
sc7 sin	-,01	,03	,00	,03	,23	,03	,00
sc4 gospel	,02	,01	,01	,06	,22	,28	,27
sc5 Paul	,09	-,01	-,01	,01	,20	,08	,22
sc49 resurrection	,00	,00	,01	,00	,19	,14	,23
sc18 love	,02	,02	,06	,04	,19	,13	,24
sc16 life	,00	,03	-,01	,04	,19	,46	,22
sc41 death	,00	,04	,05	,05	,14	,16	,10
sc39 Sacrament	-,01	,01	,00	,04	,13	,07	,31
sc42 God	,03	-,01	-,01	,01	,13	,11	,18
sc31 joy and rejoice	,00	-,01	,04	,03	,11	,00	,07

Table 11 (Positive postconciliar effects) demonstrates the postconciliar effects for several textual indicators. There are noticeable leaps from earlier periods 1 with 5 to the postconciliar period 6 (1967-1990). For some of the indicators,

this leap is sustainable: Jesus, Gospel, Resurrection, Love, Life, Death and God. For other categories, the upswing is short-lived, dwindling away in periods 7 and 8. The most spectacular case among these non-sustainable effects is Sin. Here, the prominence leap is mainly due to the exhortation *Reconciliatio et Penitentia* (John Paul II, 1984). A similar one-period peak shows up for Holy Spirit, and, on a lower level, for Joy and Rejoice.

As to the aggiornamento on the institutional level, i.e. the transformation of the aloof extra *ecclesiam nulla salus*-church into a community engaged in Christian evangelization, the expected impact pattern shows up as well. Here again, the immediately postconciliar period shows a sudden change. The summarizing prominence index 'CatholicDoctrinePope' drops considerably (Table 12, below).

Table 12: Regression of Index CatholicDoctrinePope on Historical Periods

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,371	,107		12,816	,000
y2 1914-1918	-1,078	,661	-,033	-1,631	,103
y3 1919-1938	-,791	,182	-,103	-4,341	,000
y4 1939-1945	-,681	,287	-,051	-2,372	,018
y5 1946-1966	-,651	,176	-,088	-3,691	,000
y6 1967-1990	-2,441	,154	-,403	-15,845	,000
y7 1991-2001	-1,825	,152	-,308	-12,035	,000
y8 2002-2013	-2,329	,160	-,362	-14,521	,000

a. Dependent Variable: index2 CatholicDoctrinePope, sum of z-scores, R=0,399, N = 2053 text units.

In addition, I measured triumphalism by the separate prominence score Triumph. Once more, regressing this score on historical periods delivers the expected pattern of beta-coefficients (sudden decline in the postconciliar period). The same holds true for the indicator Peter (Table 13, below).

Table 13: Negative Postconciliar Effects. Regression of Textual Indicators on Time Periods (Beta Coefficients)

Score	1914-1918 (2)	1919-1938 (3)	1939-1945 (4)	1946-1966 (5)	1967-1990 (6)	1991-2001 (7)	2002-2013 (8)
sc1 catholic	-,02	-,02	-,03	-,10	-,35	-,25	-,28
sc19 MFT_Authority	,00	-,03	-,07	-,15	-,28	-,24	-,36
sc40 pope s self ref	,02	-,03	,00	,06	-,26	-,32	,04
sc25 pope, head of	-,02	-,11	-,04	-,05	-,24	-,21	-,22
sc32 glory and triu	,01	-,10	,05	-,03	-,23	-,21	-,16
sc9 doctrin	-,03	-,04	,01	-,02	-,20	-,12	-,18
sc6 Peter	-,02	-,07	-,06	-,04	-,16	-,15	-,17

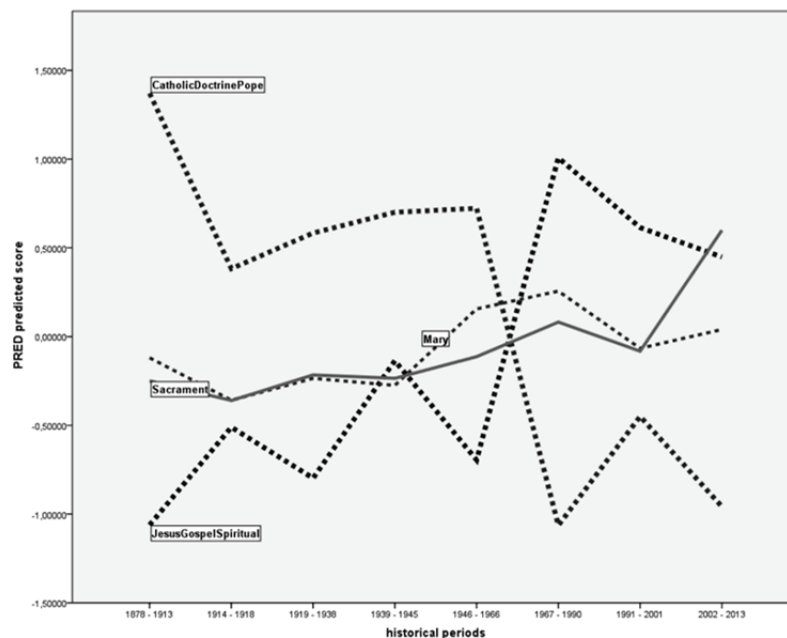
In absolute terms, disregarding the sign of the beta-coefficients, the pattern for negative effects roughly echoes the pattern for positive changes. Here as well, the

postconciliar period clearly stands out by higher coefficients compared to earlier periods. However, in contrast to the positively directed changes, all effects are more sustainable. They persist through later periods. There is a second difference: The downturn with the indicators Catholic and Authority (Moral Foundations Theory) clearly gains momentum in the preconciliar period (period 5), which means this downturn is invigorated but not initiated by Vaticanum II.

Thus, the *aggiornamento* at institutional level, in addition to its theological impact, left its mark in prominence patterns signaling changes in the span and focus of attention. Paradigm shifts in conciliar documents produced at the propositional level by religious experts are mirrored in patterns of prepropositionally measured prominence scores.

Figure 4 plots the basic message as far as the Vatican II impact is concerned. It presents the values predicted by the regression equation rather than the scores themselves. This mode of presentation renders the impact pattern more clearly, especially showing up in the crossing lines following Vaticanum II.

Figure 4: The Impact of Vaticanum II



Catholic singularity turns down in a long-term trend, a downturn, which is most obvious in the period immediately following Vatican II (1967-1990; Catholic DoctrinPope, Table 11, above).

By contrast, there is a prominence increase with the more Protestant looking index ‘JesusGospelSpiritual.’ And here again, Vatican II leaves its noticeable mark. The upswing appears to be especially steep for the postconciliar period “1967 to 1990” compared to earlier periods (Table 12, above). Taken together, the counter-directional movement of these two indices suggests the conclusion that Catholicism at encyclical level mollifies its visible Catholic singularity and enhances its ecumenical and spiritual appearance.

But let us take a look at the curves for ‘Mary’ and ‘Sacrament.’ Both of these categories are icons of Catholic uniqueness, and both these categories show slightly positive, though not significant, prominence slopes. Increases are weak, it is true, but descriptively they are there, nevertheless, and there is certainly no downturn. Thus, Mary and Sacrament are important exceptions from the general downturn of keywords signaling Catholic uniqueness.

Chapter five of Melissa Wilde’s famous study on Vatican II carries the title “The BLESSED VIRGIN MARY. The toughest fight of the Council” (Wilde 2007, 103). In this fight, progressives were eager to tone down Mary’s divinization. Conservatives, in contrast, even tried to crown Mary with additional semi-divine titles and accolades. If Wilde is right, the overall result was a deaccentuation of Mary (Wilde 2007, 114), but certainly not an enrichment of her crown with additional honors as co-redemptrix.

From Mary’s conciliar deaccentuation, one might expect her prominence scores to decline in postconciliar encyclicals. Obviously, this is not the case. Thus, Andrew Greeley may have been too much afraid that Catholicism might lose its exuberance and imaginative richness, thereby degrading into ‘beige Catholicism,’⁶⁰ “stripped of much of its beauty, its rain forest of metaphors denuded” (Greeley 2004, 134). “Perhaps the most powerful of all our metaphors⁶¹ is that of the Madonna,” Greeley goes on (2004, 137) – and it is exactly this metaphor the Popes seem to defend in their encyclicals. Perhaps as a silent concession to Protestant objections, they defend this powerful metaphor not as ‘Mary the Heavenly Queen,’ but rather as an icon of humbleness and complete self-sacrifice.⁶²

6. Summary and Conclusion

This summary starts with the reminder that papal Encyclicals and Apostolic Exhortations are only a small part of papal communication. In addition, Popes

⁶⁰ Greeley 2004, 131–49.

⁶¹ The power of this metaphor even beguiled a Spanish Bakunist, at least if we can believe Friedrich Engels. This Bakunist is said to have maintained that believing in God is against the very idea of socialism, whereas believing in the Virgin Mary is what a true socialist is obliged to do. See Marx and Engels 1958, 114.

⁶² Francis 2013, 288

communicate by Apostolic Constitutions, Apostolic Letters, homilies and speeches, to mention only some of the more important types of documents. Papal communications, in turn, make up only a minor fraction of the official worldwide ecclesial communication both within and across nations, with clerical communication itself is being enriched by a multitude of contributions made by an increasingly self-conscious, participatory-minded laity. In addition to these different levels of communication, there are different registers, some of them to address the poor, some appropriate for the rich, some dedicated to those deprived of education, others to those who struggle to philosophically define the relationship between *fides et ratio*. For some addressees, Satan is the Master of Hell and still the Fiend to be afraid of in everyday life, for others hell is the stubborn eternal refusal of God's love and Satan no more than an allegorical illustration.

Within this vast universe of Catholic communication (Schalk 2010, 306), where all the historical stages of the Church's teaching history still coexist and intermingle, papal encyclicals are just one voice, albeit officially the most important one. Sociologically, however, the encyclicals' high sacral dignity does not automatically translate into high intra- or extra-ecclesial influence. Thus, my content analysis is about encyclicals only, and there is no way to generalize the results to cover additional branches of Catholic communication. To add a final caveat: Quantitative content analysis, especially if mainly performed by frequency analysis, cannot be expected to exhaust the Encyclical's treasures of meaning. These to discover must be left to religious experts. I will now turn to the results.

Within the papal encyclicals (exhortations) from Leo XIII to Pope Francis from 1878 to 2013, concern with Authority, here with Obedience and Duty, is in long-term linear decline. This is the basic result of the morality dimension of the encyclicals, this result being uncovered when applying the content analysis dictionary developed by advocates of Moral Foundation Theory.

Relatedly, there is a long-term decrease of prominence for signals of Catholic uniqueness like Pope, Catholic and Doctrine, and for subject matters dealing with the political state. If it is true that secularization is about losses of religious authority at societal, organizational and individual levels (Mark Chaves), and if we assume, that such losses are indicated by declining papal concern for matters like authority, hierarchy, obedience and duty, then these two long-term shifts of attention may rightly be called trends of intra-ecclesial secularization.

Authority-related intra-ecclesial secularization does not necessarily imply increasing this-wordliness. Quite to the contrary, while attention to Authority, Obedience and Duty, or to Pope, Catholic and Doctrine lessens, otherworldliness, as expressed by prominence gains for God, Jesus and Holy Spirit and Resurrection, goes up. Such gains in otherworldliness move together with the shifts of attention towards Gospel, Spirituality and Love.

Otherworldliness, however, seems to become one-sided, freeing itself from the frightening side of damnation and hell, while finding consolation and hope renewal in the expectation of a celestial life after death. Heaven wins over Hell,

Love wins over Terror. Within the encyclicals, the traditional eschatological code, with its keywords Sin, Death, Final Judgment, Grace, Heaven and Hell, if it is visible at all, is becoming obsolescent. This finding is in line with the erosion of anthropomorphisms that clash with a scientific naturalist world view.

Vaticanum II clearly affected or deflected these long-term trends. The Council's *aggiornamento*-innovations, urging the monarchical, top-down driven Church to transform herself into an evangelizing People of God that is more engaged with the modern world, clearly show up in the respective regression coefficients for the immediate postconciliar period. Thus, the downturn for indicators of Catholic singularity is especially noticeable in the period immediately following Vatican II. The Council's call for evangelizing efforts to propagate the model Jesus all over the world may have affected the textual indicator JesusGospelSpiritual. The upswing of this index appears to be particularly steep for the postconciliar period (1967 to 1990).

The loving Jesus and God the absolute Love move to the front. Christ the Judge and Avenger, or Christ the Inexorable Judge move to the backstage. God's civilization did not end with his 'death,' as proclaimed for example by Heine or Nietzsche. God survived by applying his old sly cunning (Heinrich Heine) again, that is, he survived by becoming less severe and revengeful and by growing ever more caring and protective. Vatican II invigorated these developments.

Against Denis Diderot's aperçu – take away the faithful's fear of hell and you take away his faith –, Christian faith and morality, at least at the social stratum of clerical and lay religious elites, seem possible without the threats of hell, and the Church can persist without loudly ringing the bells claiming the monopoly on legitimate psychic coercion. Thus, theonomous morality is going to lose one of its pillars. God continually sheds many of those features that once earned him the angry dislike of Diderot, Baron d'Holbach and their like-minded friends, the 'philosophes.' Perhaps they would not even recognize him in his contemporary appearance. God's concessions to the 'philosophes' imply tenets of an ideational secularization advocated by Enlightenment, with this secularization embedded in the millennia-old process of God's civilization.

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